

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1 - 16 (Canceled)

17. (New) A light control apparatus comprising:
splitting means for splitting an input signal light to obtain a monitor light which is a part of the input light;
photoelectric conversion means for converting the obtained monitor light into an electric signal; and
opening and closing degree control means for changing the opening and closing degree of an optical transmission path for transmitting the input signal light by directly receiving the electric signal as a drive voltage.

18. (New) The light control apparatus according to claim 17, wherein said photoelectric conversion means is one or more semiconductor photovoltaic device.

19. (New) The light control apparatus according to claim 17, wherein said photoelectric conversion means is one or more semiconductor photovoltaic device having a nipi-type multijunction structure.

20. (New) The light control apparatus according to claim 17, wherein said opening and closing degree control means is an optical shutter using a micromachine.

21. (New) The light control apparatus according to claim 17, wherein said opening and closing degree control means is an optical device such as an absorption-type modulator or refractive index-type modulator.

22. (New) The light control apparatus according to claim 17, wherein a voltage source is inserted between said photoelectric conversion means and said opening and closing degree control means.

23. (New) The light control apparatus according to claim 27, wherein at least two of said splitting means, means for converting the monitor light into an electrical signal, and means for controlling the opening and closing degree of an optical transmission path based on the electrical signal are disposed on a single planar optical circuit.

24. (New) The light control apparatus according to claim 17, wherein said opening and closing degree control means comprises means for holding an opened and closed state

controlled based on the electrical signal and means for indicating the held opened and closed state.

25. (New) A light control apparatus comprising:
splitting and photoelectric conversion means for splitting an input signal light to obtain a signal light which is a part of the input light and converting the signal light into an electric signal; and
opening and closing degree control means for changing the opening and closing degree of an optical transmission path for transmitting the input signal light by directly receiving the electric signal as a drive voltage.

26. (New) The light control apparatus according to claim 25, wherein said splitting and photoelectric conversion means is a semiconductor photovoltaic device having a stack-type structure.

27. (New) The light control apparatus according to claim 25, wherein said splitting and photoelectric conversion means is a stack-type semiconductor photovoltaic device having a nipi-type multijunction structure.

28. (New) The light control apparatus according to claim 25, wherein said opening and closing degree control means is an optical shutter using a micromachine.

29. (New) The light control apparatus according to claim 25, wherein said opening and closing degree control means is an optical device such as an absorption-type modulator or refractive index-type modulator.

30. (New) The light control apparatus according to claim 25, wherein a voltage source is inserted between said splitting and photoelectric conversion means and said opening and closing degree control means.

31. (New) The light control apparatus according to claim 25, wherein said splitting and photoelectric conversion means and opening and closing degree control means are disposed on a single planar optical circuit.

32. (New) The light control apparatus according to claim 25, wherein said opening and closing degree control means comprises means for holding an opened and closed state controlled based on the electrical signal and means for indicating the held opened and closed state.

33. (New) The light control apparatus according to claim 25, wherein said transmission and photoelectric conversion means is a semiconductor photovoltaic device having a waveguide structure.

34. (New) A light control apparatus comprising:
transmission and photoelectric conversion means for transmitting an input signal light and converting a part of the input signal light into an electric signal; and
cutoff means for cutting off an optical transmission path for transmitting the input signal light by receiving the electric signal as a drive voltage.